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(72) Inventors:
• **Strock, Christopher W.**
Kennebunk, ME 04043 (US)
• **Lutjen, Paul M.**
Kennebunkport, ME 04046 (US)

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(71) Applicant: **United Technologies Corporation**
Hartford, CT 06101 (US)

(74) Representative: **Tomlinson, Kerry John**
Dehns
St Bride's House
10 Salisbury Square
London
EC4Y 8JD (GB)

(54) **Counter-vortex, paired film cooling hole design**

(57) An apparatus for use in a gas turbine engine includes a wall (30) defining an exterior face (32), a first film cooling passage (36A) extending through the wall for providing film cooling to the exterior face of the wall, and a second film cooling passage (36B) extending through the wall adjacent to the first film cooling passage for providing film cooling to the exterior face of the wall.

The first film passage includes a first vortex-generating structure (40A) for inducing a vortex in a first rotational direction in a cooling fluid passing therethrough, and the second film passage includes a second vortex-generating structure (40B) for inducing a vortex in a second rotational direction in a cooling fluid passing therethrough. The first and second rotational directions are substantially opposite one another.

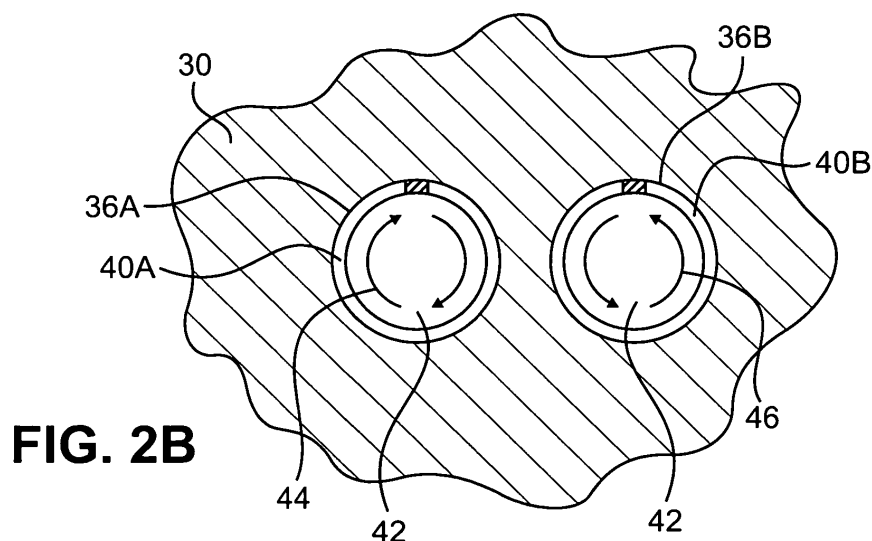


FIG. 2B

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EUROPEAN SEARCH REPORT

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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 21 November 2013	Examiner Mougey, Maurice
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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